

Status Report on the DNR-Owned Dams on the Kalamazoo River

March 2007

Prepared by Michigan DNR

Background:

The Otsego, Plainwell and Trowbridge dams on the Kalamazoo river became the property of the Department of Natural Resources in the mid 1960's, after being decommissioned for hydropower production by their previous owner, Consumers Power Company (Consumers Energy). The water level in the impoundments was lowered by the DNR in 1970 and the powerhouse structures were removed in the mid 1980's. The dams are rated as "high hazard" structures by the Department of Environmental Quality (DEQ) under the authority of the Natural Resources and Environmental Protection Act, PA 451 of 1994, Part 315.

Dam Condition:

All three dams are deteriorated and have insufficient spillway capacity (since water is no longer passed through the turbine/powerhouse portions of the dams). Interim repairs performed in 2000 – 2001 are functioning well and the dams continue to remain stable with no significant changes evident in their condition.¹ Additional stabilizing measures were performed at the Trowbridge and Otsego dams in 2006. Such measures typically include fill, grouting, sand-bagging and clearing vegetation from the embankments.² There is not substantial property at risk from dam failure, but dam failure will cause the release of accumulated sediment containing PCB's. In the event of failure, it is expected that the majority of sediments would pass through the other dams and impoundments and settle out in Lake Allegan, since there is little or no excess storage capacity for more sediment in the upstream impoundments.

The dams are regularly inspected by the DNR Wildlife Division from the Plainwell Office. Signs and fencing are periodically repaired or replaced. A Director's Order was issued in July 2005 to prohibit access to the dams.

THE PUBLIC IS REMINDED THAT THEY SHOULD NOT ATTEMPT TO ACCESS THE DAMS AT ANY TIME.

Current Status:

A dam safety order was issued by DEQ in January 2006 with a number of specific actions requested that would lead to removal, repair or replacement of the dams. A response from DNR was provided March 31, 2006. In addition, a status report is due to DEQ by May 1, 2007.

Actions requested include:

- Provide a plan of action to address the dams
- Provide weekly inspection of the dams, including inspection after every major flow event, and in the event DNR becomes aware of any unusual or dangerous circumstances at any of the dams, have a licensed professional engineer inspect the dam as soon as possible.

¹ Interim repairs for the 3 DNR owned dams totaled about \$335,000

² Trowbridge repairs completed December 2006 (\$51,000)



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- Maintain site security
- Update the Emergency Action Plans for each dam and provide copies to the County Emergency Management Coordinator (due June 30).

DNR response and subsequent efforts have met these very basic requirements. A status report will be provided to DEQ by May 1, 2007 regarding the actions taken and anticipated next steps.

Dam Removal Initiative:

The DNR-owned dams are not suitable for long-term use. However, actual removal of the dams is contingent on resolution between EPA and the responsible parties for the sediment accumulated behind the dams. If EPA were to conclude that an impoundment were to be kept in place, a dam would need to be rebuilt and maintained by the responsible parties. The DNR would very likely seek fish passage and other mitigation for such an approach. There are significant environmental and ecological reasons to remove the dams. The dams are a safety hazard and have a high maintenance cost that are borne by the public. The dams serve no useful purpose and because of their poor condition, have little potential for new hydropower production. For these reasons, the DNR continues to advocate for removal of the dams to restore a free flowing river at those locations.

The Plainwell #1 dam will be partially removed under the Time Critical Removal Action for the Plainwell impoundment. Work on this aspect will commence in the spring of 2007 and is expected to conclude in the winter of 2008-09. The spillway portion of the Plainwell dam is not scheduled to be removed as part of the Removal Action, however the DNR will continue to seek funds and look for the opportunity to have the spillway addressed concurrent with the other activities on the Plainwell impoundment property.

The Otsego City/Menasha dam is the next downstream dam. While we do not have any specific responsibility for this dam, we intend to work with the City toward removal of both the Otsego City and DNR-owned Otsego dam. We have solicited engineering services to examine dam removal for the Otsego dam but due to lack of funds, do not have plans to proceed with the engineering.³ We hope to solicit additional quotes for engineering services to recommend any additional interim repairs that may be needed for the Otsego and the Trowbridge dams while work continues toward remedy decisions along the river.

DNR has sought funding for dam removal from several sources without success including: Capitol Outlay (General Fund) requests in the Wildlife Division budget from 1998 through 2006; Federal earmarks requests made through the Governor's Washington, D.C. office 2005 – 2007; Application to FEMA Hazard Mitigation Funding: Jan 2005.

Further information can be obtained by contacting DNR Wildlife Division at 269-685-6851.

³ Engineering for Otsego dam removal cost estimate is approx \$100,000